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DAFTAR PUSTAKA

Aggarwal, R., Sounderajah, V., Martin, G., Ting, D. S. W., Karthikesalingam, A., King, D., Ashrafian, H., & Darzi, A. (2021). Diagnostic accuracy of deep learning in medical imaging: a systematic review and meta-analysis. *npj Digital Medicine*, *4*(1). https://doi.org/10.1038/s41746-021-00438-z

Deng, J., Dong, W., Socher, R., Li, L.-J., Li, K., & Fei-Fei, L. (2009). ImageNet: A large-scale hierarchical image database. *2009 IEEE Conference on Computer Vision and Pattern Recognition*, 248–255. https://doi.org/10.1109/cvpr.2009.5206848

Dixit, H. D., Pendharkar, S., Beadon, M., Mason, C., Chakravarthy, T., Muthiah, B., & Sankar, S. (2021,). *Silent Data Corruptions at Scale*. arXiv. https://doi.org/10.48550/ARXIV.2102.11245

Dosovitskiy, A., Beyer, L., Kolesnikov, A., Weissenborn, D., Zhai, X., Unterthiner, T., Dehghani, M., Minderer, M., Heigold, G., Gelly, S., Uszkoreit, J., & Houlsby, N. (2020,). *An Image is Worth 16x16 Words: Transformers for Image Recognition at Scale*. arXiv. https://doi.org/10.48550/ARXIV.2010.11929

Geissler, F., Qutub, S., Paulitsch, M., & Pattabiraman, K. (2023). *A Low-cost Strategic Monitoring Approach for Scalable and Interpretable Error Detection in Deep Neural Networks*. https://doi.org/10.48550/ARXIV.2310.20349

Hanif, M. A., & Shafique, M. (2023,). *FAQ: Mitigating the Impact of Faults in the Weight Memory of DNN Accelerators through Fault-Aware Quantization*. arXiv. https://doi.org/10.48550/ARXIV.2305.12590

He, K., Zhang, X., Ren, S., & Sun, J. (2015,). *Deep Residual Learning for Image Recognition*. arXiv. https://doi.org/10.48550/ARXIV.1512.03385

Hochschild, P. H., Turner, P., Mogul, J. C., Govindaraju, R., Ranganathan, P., Culler, D. E., & Vahdat, A. (2021). Cores that don't count. *Proceedings of the Workshop on Hot Topics in Operating Systems, HotOS '21*, 9–16. https://doi.org/10.1145/3458336.3465297

Hosseini, F. S., Meng, F., Yang, C., Wen, W., & Cammarota, R. (2021). Tolerating Defects in Low-Power Neural Network Accelerators Via Retraining-Free

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Weight Approximation. *ACM Transactions on Embedded Computing Systems*, *20*(5s), 1–21. https://doi.org/10.1145/3477016

Houben, S., Abrecht, S., Akila, M., Bär, A., Brockherde, F., Feifel, P., Fingscheidt, T., Gannamaneni, S. S., Ghobadi, S. E., Hammam, A., Haselhoff, A., Hauser, F., Heinzemann, C., Hoffmann, M., Kapoor, N., Kappel, F., Klingner, M., Kronenberger, J., Küppers, F., … Woehrle, M. (2022). Inspect, Understand, Overcome: A Survey of Practical Methods for AI Safety. In *Deep Neural Networks and Data for Automated Driving* (pp. 3–78). Springer International Publishing. https://doi.org/10.1007/978-3-031-01233-4_1

Huang, X., Kroening, D., Ruan, W., Sharp, J., Sun, Y., Thamo, E., Wu, M., & Yi, X. (2018,). *A Survey of Safety and Trustworthiness of Deep Neural Networks: Verification, Testing, Adversarial Attack and Defence, and Interpretability*. arXiv. https://doi.org/10.48550/ARXIV.1812.08342

Khoshavi, N., Roohi, A., Broyles, C., Sargolzaei, S., Bi, Y., & Pan, D. Z. (2020, July). SHIELDeNN: Online Accelerated Framework for Fault-Tolerant Deep Neural Network Architectures. *2020 57th ACM/IEEE Design Automation Conference (DAC)*. https://doi.org/10.1109/dac18072.2020.9218697

Li, G., Hari, S. K. S., Sullivan, M., Tsai, T., Pattabiraman, K., Emer, J., & Keckler, S. W. (2017). Understanding error propagation in deep learning neural network (DNN) accelerators and applications. *Proceedings of the International Conference for High Performance Computing, Networking, Storage and Analysis, SC '17*, 1–12. https://doi.org/10.1145/3126908.3126964

Liu, Z., Deng, Z., & Yang, X. (2022). Using checksum to improve the reliability of embedded convolutional neural networks. *Microelectronics Reliability*, *136*, 114666. https://doi.org/10.1016/j.microrel.2022.114666

Lyons, R. E., & Vanderkulk, W. (1962). The Use of Triple-Modular Redundancy to Improve Computer Reliability. *IBM Journal of Research and Development*, *6*(2), 200–209. https://doi.org/10.1147/rd.62.0200

Ma, D., Lin, F., Desmaison, A., Coburn, J., Moore, D., Sankar, S., & Jiao, X. (2024). Dr. DNA: Combating Silent Data Corruptions in Deep Learning using Distribution of Neuron Activations. *Proceedings of the 29th ACM International Conference on Architectural Support for Programming Languages and*

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Operating Systems, Volume 3, ASPLOS '24, 239–252. https://doi.org/10.1145/3620666.3651349

Reagen, B., Gupta, U., Pentecost, L., Whatmough, P., Lee, S. K., Mulholland, N., Brooks, D., & Wei, G.-Y. (2018). Ares: a framework for quantifying the resilience of deep neural networks. *Proceedings of the 55th Annual Design Automation Conference, DAC '18*, 1–6. https://doi.org/10.1145/3195970.3195997

Sandler, M., Howard, A., Zhu, M., Zhmoginov, A., & Chen, L.-C. (2018). MobileNetV2: Inverted Residuals and Linear Bottlenecks. *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*, 4510–4520. https://doi.org/10.48550/ARXIV.1801.04381

Schorn, C., Guntoro, A., & Ascheid, G. (2018). Efficient On-Line Error Detection and Mitigation for Deep Neural Network Accelerators. In *Developments in Language Theory* (pp. 205–219). Springer International Publishing. https://doi.org/10.1007/978-3-319-99130-6_14

Tan, M., & Le, Q. V. (2019,). *EfficientNet: Rethinking Model Scaling for Convolutional Neural Networks*. arXiv. https://doi.org/10.48550/ARXIV.1905.11946

Tolstikhin, I., Houlsby, N., Kolesnikov, A., Beyer, L., Zhai, X., Unterthiner, T., Yung, J., Steiner, A., Keysers, D., Uszkoreit, J., Lucic, M., & Dosovitskiy, A. (2021,). *MLP-Mixer: An all-MLP Architecture for Vision*. arXiv. https://doi.org/10.48550/ARXIV.2105.01601

Touvron, H., Cord, M., Douze, M., Massa, F., Sablayrolles, A., & Jégou, H. (2020,). *Training data-efficient image transformers & distillation through attention*. arXiv. https://doi.org/10.48550/ARXIV.2012.12877

Wang, S., Zhang, G., Wei, J., Wang, Y., Wu, J., & Luo, Q. (2023). Understanding Silent Data Corruptions in a Large Production CPU Population. *Proceedings of the 29th Symposium on Operating Systems Principles, SOSP '23*, 216–230. https://doi.org/10.1145/3600006.3613149

Zhang, X., Wang, T., Ma, L., & Mahadevan, S. (2025). Reliability engineering, risk management, and trustworthiness assurance for AI systems. *Journal of*

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GADJAH MADA
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Reliability Science and Engineering, *1*(2), 22001. https://doi.org/10.1088/3050-2454/adcef2

Zhao, F., Zhang, C., Dong, N., You, Z., & Wu, Z. (2021,). *A Uniform Framework for Anomaly Detection in Deep Neural Networks*. arXiv. https://doi.org/10.48550/ARXIV.2110.03092

Zhao, X., Banks, A., Sharp, J., Robu, V., Flynn, D., Fisher, M., & Huang, X. (2020,). *A Safety Framework for Critical Systems Utilising Deep Neural Networks*. arXiv. https://doi.org/10.48550/ARXIV.2003.05311